

CLAIMS

1. A carbonaceous particle comprising a hexagonal flake formed of an aggregate of a plurality of nanocarbons and having a side length of 0.1 to 100
5 μm and a thickness of 10 nm to 1 μm .

2. The carbonaceous particle according to claim 1, wherein the hexagonal flake has a layered structure.

3. The carbonaceous particle according to claim
10 1, wherein the ratio of the thickness to the side length of the hexagonal flake is 1/10 to 1/100.

4. The carbonaceous particle according to claim 2, wherein the hexagonal flake comprises a stack of a plurality of hexagonal sheets.

15 5. The carbonaceous particle according to claim 1, wherein the hexagonal flake comprises a microstructure comprising an aggregate of stacks of graphene sheets.

6. The carbonaceous particle according to claim
20 5, wherein the graphene sheets are arranged such that the plane of the graphene sheet is substantially perpendicular to the plane of the hexagonal flake.

7. The carbonaceous particle according to any
25 one of claims 1 to 6, wherein the hexagonal flake comprises an aggregate of microcrystals simultaneously having crystal lattice planes with a crystal lattice spacing of 0.329 to 0.346 nm, 0.209

to 0.219 nm and 0.199 to 0.209 nm, respectively.

8. The carbonaceous particle according to any one of claims 1 to 7, which contains iron element and at least one of sulfur element and oxygen element.

5 9. (Amended) A method of producing the hexagonal, flaky carbonaceous particle set forth in any one of claims 1 to 8, comprising the step of reacting (a) a carbon-containing compound, and at least (b) iron or an iron compound, and (c) at least
10 one of an oxygen-containing compound and a sulfur-containing compound, and (d) at least one medium selected from the group consisting of carbon dioxide, an alcohol, an ether, a hydrocarbon, water, and an inert gas, at a pressure within the range of 2.5 to
15 60 MPa and at a temperature within the range of 80 to 800°C.

20 10. (Amended) A method of producing the hexagonal, flaky carbonaceous particle set forth in any one of claims 1 to 8, comprising the step of reacting (a) a carbon-containing compound, and at least (b/c) iron and a sulfur-containing compound, or an iron compound and a sulfur-containing compound, and (d) at least one medium selected from the group consisting of carbon dioxide, an alcohol, an ether, a
25 hydrocarbon, water, and an inert gas, at a pressure within the range of 2.5 to 60 MPa and at a temperature within the range of 80 to 800°C.

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11. (Amended) A method of producing the hexagonal, flaky carbonaceous particle set forth in any one of claims 1 to 8, comprising the step of reacting (a) a carbon-containing compound, and at least (b/c) iron and an oxygen-containing compound, or an iron compound and an oxygen-containing compound, and (d) at least one medium selected from the group consisting of carbon dioxide, an alcohol, an ether, a hydrocarbon, water, and an inert gas, at a pressure within the range of 2.5 to 60 MPa and at a temperature

within the range of 80 to 800°C.

12. A method of producing the hexagonal, flaky carbonaceous particle set forth in any one of claims 1 to 8, comprising the step of reacting (a) an
5 aromatic hydrocarbon, at least (b/c) iron and a thiol or an iron compound and a thiol, and (d) at least one medium selected from the group consisting of carbon dioxide, an alcohol, an ether, a hydrocarbon, water, and an inert gas, at a pressure within the range of
10 2.5 to 60 MPa and at a temperature within the range of 80 to 800°C.

13. The method of producing the hexagonal, flaky carbonaceous particle according to any one of claims 9 to 12, wherein the temperature and pressure
15 during the reaction are such that at least one of the carbon-containing compound (a) and the medium (d) becomes a supercritical fluid or a subcritical fluid.

14. The method of producing the hexagonal, flaky carbonaceous particle according to any one of claims
20 9 to 13, wherein a product obtained in the step of reacting (a), (b), (c), and (d) is calcined.

15. The method of producing the hexagonal, flaky carbonaceous particle according to claim 14, wherein the calcination is performed at a temperature within
25 the range of 900 to 2,800°C in an inert gas atmosphere.

16. The method of producing the hexagonal, flaky carbonaceous particle set forth in any one of

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claims 9 to 15, wherein the produced carbonaceous particle contains iron element and at least one of sulfur element and oxygen element.

17. (Cancelled)

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